

600
75

ANNUAL REPORT OF THE COUNCIL OF THE CANADIAN INSTITUTE—
SESSION, 1887-88.

The Council of the Canadian Institute has the honour to lay before the members its Thirty-Ninth Annual Report :

Early in the past Session the President, Mr. W. H. Vander Smissen, to whose exertions so much of the increased activity and prosperity of the Institute were due, was unfortunately obliged, through the pressure of other duties, to resign, and the Vice-President being at the time absent in Europe, Mr. Charles Carpmael was elected to fill the vacant position. Twenty-six meetings, including the annual conversazione, have been held during the past session, at which thirty-nine papers have been read, in addition to fifty read at Section meetings. The aggregate number of papers read thus exceeds by seventeen that of the preceding year, when there were but seventy-two, and this number was again largely in excess of that of any previous year in the history of the Institute. The character of these communications has been fully equal to the standard of previous years, and the range of subjects (as shown in the appendix) has been unusually large. The average attendance at the regular weekly meetings has also shown an increase. It is also satisfactory to notice that there has been a considerable increase in the number of members who have made use of the reading-room. On the occasion of the annual conversazione, the Museum of Natural History and Archæology was opened, and there was an excellent exhibition of photographs by the Photographic Section. There was a large attendance of members and their friends. The Archæological collection is already extensive, and has been admirably arranged by the Curator, to whom the Institute is greatly indebted for his exertions, both in collecting specimens and in carefully classifying them. The Archæological Report, which has been bound up with the Annual Report of the Institute for the year 1886-87, is already in the hands of the members, and contains an account of what has been done by the Institute down to December last, in this field. Our exertions to add to our collection continue unabated, and the Council has thankfully to acknowledge the grant of \$1,000 by the Ontario Government, which will enable us to devote a considerable sum, as in the past year, to this purpose. The number of books and pamphlets received during the year, is shown in Appendix III, to have continued to increase, and to have been considerably more than eight times as large as it was five years ago. A pamphlet has been prepared by Mr. Sandford Fleming, on the subject of "Time Reckoning," and issued by the Institute for the purpose of introducing the subject, in the educational institutions throughout the Dominion. In this pamphlet the principles of time-reckoning are set forth, with special reference to the recommendations of the Washington conference on the subject. A deputation of the Council of the Institute has waited upon the Minister of Education of the Province of Ontario, and acting on the recommendation of this deputation, the Minister has requested to be furnished with five hundred copies of the pamphlet, for distribution to the head masters of the various high schools and collegiate institutes in the Province. The Council has also sent copies of the pamphlet to the Ministers of Education in the other Provinces. It will be remembered that it was a paper by Mr. Sandford Fleming, read before this Institute, copies of which were forwarded with a memorial from the Institute to the Marquess of Lorne, then Governor-General of the Dominion of Canada, and through him to the British Government, and to various foreign scientific institutions, which first called prominent attention throughout the world to this subject. The views then advanced by Mr. Sandford Fleming, were very generally accepted by scientific men in all civilized nations, the subject was discussed at various congresses, and in October, 1884, a conference was held at Washington on the invitation of the President of the United States, at which twenty-five nations were represented, and the proposed reforms were by it recommended for adoption by all

F5-12
127
K882

nations. Your Council has every reason to hope that the pamphlet now issued will facilitate the introduction of these reforms in Canada. A memorial was also forwarded to the Minister of the Interior in connection with Geological and Mining affairs, and in reply a certified copy of a report of a committee of the Honorable the Privy Council, approved by his Excellency the Governor-General in Council on the 28th September, 1887, has been received, in which it is set forth that a Division of the Geological Branch of the Interior has recently been organized by the appointment to the permanent staff of the Survey, of a Mining Engineer and a Mining Geologist, to examine and report upon the mining industries of the Dominion, to collect mineral statistics, and otherwise to work out the economic geology of our mining districts. While congratulating the Institute on the increase in membership and activity, the Council feels it necessary to impress upon the members that much has yet to be done in the direction of the further extension of the Museum and Library. Our accommodation in these is still inadequate, and additional shelving and cases are required. The balance shown on our balance sheet is already expended. It therefore urges upon the members the necessity of supporting the present efforts of the Committee of Ways and Means by every means in their power, by contributions, by presenting the claims of the Institute to the public in every possible way, and by endeavoring to obtain new members. During the past year the Institute has lost by death one of its most distinguished honorary members, Prof. Balfour Stewart, of Owen's College, Manchester. Balfour Stewart's name was first prominently brought before the public by his researches on radiant heat, published in 1858. In 1859 he was appointed Director of Kew Observatory, and held this post until 1870, when he was appointed Professor of Physics at Owen's College, Manchester. He died of apoplexy on December 18, 1887.

CHARLES CARPMAEL,
President.

APPENDIX I.

Membership.

Number of Members April 1, 1887	290
Withdrawals and deaths during the year	27

263

Elected during the year	56
-------------------------------	----

Total members, April 1, 1888.....	319
-----------------------------------	-----

Composed of :

Honorary Members.....	6
Life Members	12
Ordinary Members.....	301

Total	319
-------------	-----

Associates	54
------------------	----

APPENDIX II.

Treasurer in Account with the Canadian Institute for the Year Ending March 31st, 1888.

To Summary :—

" Balance on hand	\$56 40
" Annual Subscriptions	909 75
" Rents	206 50
" Government Grant	1,000 00
" Journals sold	7 15
" Periodicals sold	38 80
" Donation	2 50
" Interest	1 14
" Proceeds of Note	200 00
	<u>\$2,422 24</u>

By Summary :—

" Salaries	\$314 00
" Printing Journal	813 27
" " Miscellaneous	59 00
" Stationery	2 00
" Postage	78 85
" Freight and Express Charges	13 53
" Repairs	36 64
" Gas	40 75
" Water	24 00
" Periodicals	120 76
" Furniture	11 15
" Housekeeping	43 80
" Fuel	20 75
" Insurance	52 00
" Blinds	10 00
" Gas Lights	19 20
" Taxes	9 75
" Journals purchased	2 50
" City Directory	3 00
" Chemicals for Museum	8 53
" Grant to Photographic Section	40 00
" Sundries	8 00
" Interest	218 00
" Promissory Note	300 00
" Balance, Imperial Bank	163 56
" " on hand	9 20
	<u>\$2,422 24</u>

Bank Balance as per Bank Book	\$273 67
Balance as above	\$163 56
" for Building Fund	110 11
	<u>273 67</u>

Building Account.

1887.

April 1, to Balance.....	\$662 83
--------------------------	----------

1887.

April 29th,	By Carpenters Contract, Certificate No. 3, ..	\$32 75
May 5th,	" Painters " " " 1, ..	113 40
Nov. 18th,	" Plasterers " " " 1, ..	41 80
Oct. 16th,	" Roofers " " " 1, ..	25 00
May 17th,	" Contract for Cases	\$ 50 00
Oct. 24th,	" "	75 00
	" "	100 00
Nov. 16th,	" "	65 00
		<hr/>
		290 98
Dec. 16th,	" Law Expenses	3 64

1888.

Jan. 13th,	" Carpenters Account for Alterations and Shelves	45	15
	" Balance in Imperial Bank.....	110	11
		<u>£</u> 662	83

Archæological Grant.

To Grant, 1887	\$1,000 00
----------------------	------------

By Grant to Fort Rouille monument	\$200 00
" Purchase of Specimens.....	235 50
" Engraving of Specimens for Report.....	134 55
" Travelling expenses, sundry expenses and remuneration of the Curator	394 50
" Balance on hand	35 45
	<hr/>
	\$1,000 00

(Signed)

W. A. DOUGLASS, } *Auditors.*
ALFRED BAKER, }

Assets.

Building	\$11,500 00
Warehouse	720 00
Ground.....	3,000 00
Library	5,500 00
Specimens	2,000 00
Personal property.....	1,000 00
	<hr/>
	\$23,720 00

Liabilities.

Mortgage No. 1, due 1892.....	\$3,000 00
“ 2, “ 1892.....	1,000 00
Note discounted.....	200 00
Balance in favour of the Institute.....	19,520 00
	<hr/>
	\$23,720 00

APPENDIX III.

Donations and Exchanges.—Books and Pamphlets received from April 1st, 1887, to April 1st, 1888 :—From Canada, 229 ; United States, 503 ; Great Britain and Ireland, 466 ; India and Australasia, 90 ; all other countries, 1,045. Total, 2,333.

Total number received in 1882-3, 280 ; in 1883-4, 800 ; in 1884-5, 730 ; in 1885-6, 1,502 ; in 1886-7, 2,230 ; in 1887-8, 2,333.

APPENDIX IV.

The number of Societies and Publications with which the Institute exchanges is 396

APPENDIX V.

The Periodicals subscribed for are the same as last year, with the addition of the *Amateur Photographer*.

APPENDIX VI

Classification of papers read by subjects :—Anthropology, 3 ; Archæology, 1 ; Biology, 2 ; Botany, 1 ; Chemistry, 1 ; Economics, 4 ; Geology, 4 ; Geography, 2 ; Jurisprudence, 1 ; Medicine, 1 ; Metallurgy, 1 ; Meteorology, 1 ; Philology, 4 ; Political Science, 3 ; Psychology, 1 ; Sociology, 1 ; Solar Physics, 1 ; Telegraphy and Telephony, 1 ; Zoology, 4 ; Miscellaneous, 2. Total, 39.

Read at Section Meetings :—Architectural Section, 12 ; Biological Section, 22 ; Geological and Mining Section, 6 ; Philological Section, 10. Total, 50.

REPORTS OF SECTIONS OF THE CANADIAN INSTITUTE, 1887-8.

(1) *Report of the Biological Section.*

The Biological Section of the Canadian Institute has held its regular meetings on the 1st and 3rd Mondays in every month during the past session. At each of these meetings one or more original papers have been read on a variety of topics, as may be seen on reference to the programmes issued.

The "Microscope Fund" has, through the liberality of a few members and their friends, been sufficiently augmented to allow of the purchase of a first-class instrument, now expected to arrive in a few days.

Yours faithfully,

W. E. MIDDLETON.

Schedule of Papers Read in Biological Section 1887-8.

May	2	1887,	"The English Rabbit as an Agricultural Pest,".....	William Brodie
	16,	"	"The Fresh Water Hydra,".....	W. E. Middleton
		"	"The Coleoptera of the N.W.T.,".....	Wm. Brodie
June	20,	"	"The Acclimatization of the English Goldfinch,".....	Wm. Brodie
Oct.	3,	"	"Canadian Ants,".....	Wm. Brodie
	17,	"	"Canadian Gall Insects,".....	Wm. Brodie
Nov.	7,	"	"Foreign Ants,".....	W. E. Middleton
	21,	"	"Hyphantria Cunea,".....	Wm. Brodie
Dec.	5,	"	"The Brownian Movement,".....	W. E. Middleton
		"	"Mind in Animals,".....	Wm. Brodie
		"	"The Calamorpha Moth,".....	Wm. Brodie
	19,	"	"Canadian Reptiles,".....	J. B. Williams
Jan.	16,	1888,	"Planorbis Corpulentus,".....	Wm. Brodie
		"	"Some Canadian Insects,".....	Wm. Brodie
Feb.	6,	"	"Birds' Eggs,".....	E. V. Rippon
		"	"Museum Collections and their Preservation,".....	C. Armstrong
		"	"Certain Alleged Digestive Glands of Carnivorous Plants,".....	W. E. Middleton
		"	"The English Sparrow,".....	Dr. Garnier
	20,	"	"Chloroform,".....	Wm. Brodie
March	5,	"	"Coleoptera of the N. W. T.," No. 2.....	Wm. Brodie
April	2,	"	"Habits of Canadian Birds,".....	E. E. Thompson
	16,	"	"The Echini,".....	Rev. K. F. Junor
			(22 papers.)	

The Officers for the ensuing year are :—James H. Pearce, President ; W. E. Middleton, Secretary.

(2) Report of the Architectural Section.

The Architectural Section of the Canadian Institute has the honor to present its Second Annual Report :

Since our first report to the Canadian Institute we have held weekly meetings during the winter months, closing the first session of our existence on May 9th, 1887, and commencing the session of 1887-88 on October 11th.

The following papers and addresses were delivered before this section during the past year :

April	4th,	1887,	Mr. C. F. Wagner read a paper on "Carpentering."
	11th,	"	Mr. J. W. Gray read a paper on "The Doric Temple in its Constructive Aspect."
May	2nd,	"	Mr. Curry gave an address on "Plumbing," illustrated by drawings, showing correct and defective work.
Jan.	17th,	1888,	Mr. M. J. Hynes gave an address on the subject of "Terra Cotta."
	24th,	"	Mr. Frank Douglas read a paper on "Renaissance Architecture."
	31st,	"	Mr. J. B. Vick gave an address on "Stone Cutting and Stone Setting."
Feb.	7th,	"	Mr. A. G. Gregg read a paper on "Architectural Lessons from the Human Figure."
	14th,	"	Mr. Jas. Wright gave an address on "Plastering."
	28th,	"	Mr. Wm. Simpson gave an address on "Joinery."
Mar.	20th,	"	Mr. R. J. Hovenden gave an address on "Painting."
	27th,	"	Mr. R. J. Hovenden gave an address on "The Manufacture; Adulteration and Application of Colors."
April	10th,	"	Mr. Wm. Phillips gave an address on "House Drainage."

The officers for the ensuing year are: Chairman, A. F. Wickson; Vice-Chairman, R. Dawson; Treasurer, C. D. Lennox; Secretary, J. F. Brown; Committee of Management, John Howard and G. F. W. Price.

ROBERT DAWSON,
Chairman.

TORONTO, April 10th, 1888.

(3) *Report of the Philological Section.*

GENTLEMEN,—In accordance with the constitution of the Canadian Institute I beg to submit the following report of the work of the Philological Section for the year ending March 31st, 1888:

The number of members on the roll is eighteen. Since the 31st March, 1887, the section has held eleven meetings. Since December 13th, 1887, the meetings of the section have taken place at twenty o'clock on the second and fourth Tuesdays in each month of the session of the Institute.

At the meeting of November 14th, 1887, it was decided that the section should take up the study of "Phonetics," and the work of the members has to a great extent been the pursuance of such study.

At the meeting of January 10th, 1887, Mr. George E. Shaw, B.A., resigned the position of Secretary of the Section, to which office Mr. A. F. Chamberlain, B.A., was appointed.

During the year the following papers have been read before the Section:

- (1) April 11th, 1887, "The Science of Language in Popular Education," by the Rev. J. F. McCurdy, Ph.D.
- (2) 25th, " " "Umbrian Inscriptions," by the Rev. Dr. McNish.
- (3) May 9th, " " "An International Alphabet with a System of Shorthand," by M. L. Rouse.
- (4) Dec. 13th, " " "The Organs of Speech, with Special Reference to the Production of Speech in the Larynx," by Dr. G. R. McDonagh.
- (5) Jan. 10th, 1888, "Throat Sounds," by the Rev. J. F. McCurdy, Ph.D.
- (6) 24th, " " "Portuguese Nasal Sounds," by G. E. Shaw, B.A.
- (7) Mar. 27th, " " "A Contribution to the Study of the Franco-Canadian Dialect," by Jno. Squair, B.A.

(Signed)

A. F. CHAMBERLAIN,
Secretary Philol. Sect. C. I.

TORONTO, April 7th, 1888.

(4) *Report of the Geological and Mining Section.*

This Section of the Institute was organized at a meeting held on the 20th of April, 1887, and its Regulations and By-laws were approved by the Council on the 30th of the same month. The names of sixteen members of the Institute are enrolled on the minute book as members of the Section.

Besides the inaugural meeting, six meetings of the Section have been held during the year. The attention of the Section was called soon after its formation to the want of statistics and other trustworthy information relating to the mining and metallurgical operations carried on in the Dominion, and the desirableness of the public being put in possession of such information as soon after the close of each year as possible. A memorial

setting forth these views was prepared by the Section, approved by the Institute, and forwarded to the Dominion Government in May of last year. In answer to this memorial the Government replied on the 28th September, that an Order in Council was passed creating a division of the Geological Survey to attend to these matters. Furthermore, in reply to an interview had with the Deputy-Minister of the Interior by an authorized sub-committee of the Section, consisting of the chairman and secretary, the Minister stated: (1) That the officers of the division referred to have been appointed; (2) That the publication of statistics and information by this division will hereafter be much more prompt after the close of each year than hitherto; (3) That the Dominion Government has co-operated and will co-operate with the Provincial Governments in the direction of acquiring mining and metallurgical information; and (4) That the Government is considering the publication of all reports of the Geological Survey relating to mining and metallurgy in Canada since 1863 in connection with the work of the forthcoming census.

A select committee of the Section has also prepared an exhaustive report, with tables of exports and imports, on the minerals and raw metallurgical products of the United Kingdom, the United States, Canada and the other Colonies of the Empire, more especially in regard to the trade of the several countries with each other.

In addition to the foregoing work accomplished by the Section, papers were read at the several meetings as follows:

1. "On the Mineral Production of Canada in 1886-7," by Wm. Hamilton Merritt.
2. "On Iron and other Ores of Ontario," by James T. B. Ives.
3. "On certain Lacustrine Deposits and their Economic Values," by Arthur Harvey.
4. "On the Physical Aspects of Iron Smelting," by Samuel D. Mills, of St. Ignace, Michigan.
5. "Notes on Thunder Bay Silver Ores," by Robert B. Headley, of Port Arthur.
6. "Notes on New Jersey Iron Ores," by Wm. Hamilton Merritt.

Two officers elected at the organization of the Section, viz.: Alexander McNabb, Vice-Chairman; and J. T. B. Ives, Curator, having resigned in consequence of leaving the country, their places were filled by the appointment thereto of Arthur Harvey and David Boyle, respectively.

The following officers of the Section have been elected for the Institute year, beginning May 1st, 1888.

Chairman, William Hamilton Merritt; Vice-Chairman, Arthur Harvey; Secretary, A. Blue; Executive Committee, John Notman, A. Elvins, R. W. Phipps, Dr. P. H. Bryce and A. F. Chamberlain.

A. BLUE,
Secretary.

Resolution adopted unanimously by the Geological and Mining Section of the Canadian Institute, at Toronto, on the 26th April, 1888:

Whereas, the late Hon. Thomas White, Minister of the Interior, for years recognized the importance of the mineral and metallurgical interests of the Dominion of Canada, and previous to taking office in the Government ably advocated through the press the desirability of more attention being paid to their development; and whereas, since taking office he has reorganized the Geological Survey so that a division of it may accomplish a practical utility in keeping a record of mining and metallurgical development in Canada, and has also made important and beneficial changes in our mining laws; Be it resolved, that, while expressing the most profound sorrow at his death, the Geological and Mining Section of the Canadian Institute desires to bear record to the great benefits accomplished by the deceased during his short term of office for the mineral interests of the Dominion of Canada; and that a copy of this resolution be forwarded to his son, Mr. Robert White.

TORONTO, April 26th, 1888.

ARCHÆOLOGICAL REPORT.

To the President and Council of the Canadian Institute, Toronto :

GENTLEMEN,—Absence from Ontario during the whole of last summer prevented my doing anything archæologically during the year from a strictly provincial point of view, but I am pleased to be able to inform you that the work of collecting at least, has not for this reason been a total blank, as during my residence of nearly five months in the United States I was enabled to gather a considerable number of specimens, many of which differ considerably from the types found in this country, and some being totally unlike anything met with in Ontario.

Having spent all my time in Cincinnati, which may be regarded as the centre of that region which contains so many evidences of the ancient mound-builders' peculiar art, I was afforded several opportunities of gaining such knowledge as may prove serviceable in future should any similar works be discovered within our own territory.

I have especially in this connection to thank Drs. Craig and Collins, of Lawrenceburg, Indiana, for their extreme kindness and courtesy to me, both personally and as your representative. These gentlemen not only conducted me to interesting localities, but they secured for me the rare permission to open a number of mounds and to appropriate for the museum of the Institute anything of value that might be found therein. I regret to state, however, that owing to the unusual wetness of the season our digging intentions were frustrated on three or four occasions, until eventually the weather became too cold. Our gratitude is due also to Mr. Robt. Clarke, publisher, Cincinnati, for casts of the famous Cincinnati or Gest, and Waverly or Clarke "tablets," the originals of which are, in many respects, among the most interesting relics of pre-historic man that have been found in North America. Within recent years one or two writers have attempted to throw doubt upon the genuine character of the former tablet, but the weight of testimony warrants the full belief that the relic in question was actually taken from a mound near the north-east corner of Fifth and Mound Streets, Cincinnati, in November, 1841, and since that time it has remained the property of Mr. Gest, who owned a portion of the ground from which it was unearthed.

Mr. Robert Clarke, the custodian of this precious relic, in his pamphlet entitled "The Pre-historic Remains which were found on the Site of the City of Cincinnati, with a Vindication of the Cincinnati Tablet," has carefully collected all the evidence for and against the genuineness of the "find," and has succeeded in showing conclusively that there is no room for a particle of doubt regarding the authenticity of the tablet in question.

With regard to the Clarke Tablet we learn (quoting from the Journal of the Cincinnati Society of Natural History for January, 1887) that it "was discovered March 12, 1885, by Mr. J. P. MacLean in the collection of Dr. W. R. Hurst, of Piketon, Ohio, was obtained of him and disposed of to Mr. Clarke. . . . The history of the tablet, as given by Dr. Hurst to Mr. MacLean, is as follows:—'The tablet was taken from a mound on the farm of Abraham Cutlip, about one mile south of Waverly and about three and a half miles north of Piketon, about March, 1872. It was found about three feet from the bottom of the mound on the north side by Abraham Cutlip and David Allan, who were cutting away the mound. Dr. Hurst obtained it from them. The mound was on the second bottom of the river, had been fifteen to twenty feet high, but had from time to time been cut away, so that it was only about ten feet high at the time of the excavation. It was composed of clay. With the tablet were found darts, badges and human bones.'"

Another, called the Richardson Tablet, similar in design to those known as the Cincinnati and Clarke Tablets, was found "on the 31st day of January, 1879, in excavating a mound on the road leading from Wilmington, Ohio, to Harveysburg." An attempt has been made to give to all of these a phallic interpretation, and one writer professes to have discovered in the Cincinnati Tablet a system of time computation as applied to fœtal life.

However much or little of such symbolization the tablets are capable of bearing, the archaeological student of Ontario will now have an opportunity to examine for himself in Toronto, with as much satisfaction as if he had the originals before him.

Of the other specimens I procured when away, the following may be enumerated :—

From North Carolina—Three large flints, one fragment of a steatite dish, four fragments of pottery, one pure quartz arrow-head, and thirty-five other arrowheads.

From Georgia—Fourteen arrow-points, mostly of quartz.

From West Virginia—Two smoothly wrought and peculiarly formed implements, one steatite ornament perforated with two holes, one small discoidal gambling (?) stone and four war arrowheads.

From Tennessee—One stone axe and eight flints.

From Mississippi—Seven war arrowheads.

From Alabama—Two rudely-formed axes, one spear-head and eighteen arrowheads of various kinds.

From Kentucky—Two pestles, four grooved axes, five plain axes, one hammer stone, one stone ornament, two fragments of pottery, twelve pieces of corn cobs and some burnt corn, two drills and eighty-six flints of great variety.

From Ohio—Five stone axes, two bone implements, three bone beads, two perforated unio shells, three smoothly-finished stone implements of unknown purpose, one perforated slate tablet, one small discoidal stone, one copper button-like specimen, three flint cores and twenty-four flints of different sizes and shapes.

From Indiana—Eight grooved axes, thirteen plain axes, nine discoidal stones, four fragments of pottery, one partly made axe or hammer, one perforated slate tablet or gorget, two paint-cup stones (?), five flint drills and thirty-three arrowheads. For many of these American specimens we are indebted to Miss Maria Tipton, of Paris, Kentucky; Mr. E. T. Hummell, of Decatur, Alabama; Mr. L. Deming, of Cincinnati; the Brothers of St. Mary's Institute, Dayton, Ohio; and to others whose names are mentioned in what follows.

From Arkansas mounds—Thirteen whole or nearly whole specimens of pottery vessels, which formed part of a collection made by Mr. C. W. Riggs, of Cincinnati, during the past twelve years. Also five ditto from the collection of Mr. W. K. Moorehead.

Owing to the extreme difficulty of procuring perfect, or comparatively perfect, specimens of earthenware, "modern antiquities" are frequently prepared and sold to the unsuspecting, most of whom are usually found among European tourists and travellers, and as the vessels in question were almost the only articles I procured involving any outlay, I was very careful to make inquiry relative to Mr. Riggs, his antecedents and reputation, the result in every case going to prove him thoroughly trustworthy in all respects. To private collectors and to directors of museums I can confidently recommend Mr. Riggs as not only a gentleman having the largest private collection for sale in the United States, but as one upon whom the most implicit confidence can be placed.

With two exceptions these are the only perfect specimens of earthenware in our collection, all the rest being mere shreds or fragments. Should we be able to secure good Ontario or Canadian pieces in the course of time, those will prove interesting and instructive by way of comparison, and in any event they will form an exceedingly valuable adjunct to our collection as illustrative of the work performed by a branch of the same people who were aboriginal in this country.

For more than a quarter of a century have our American scientific neighbors acted towards Ontario in a most friendly manner, visiting us frequently, carrying off to Washington and elsewhere every specimen worthy of preservation in their cabinets, and it seemed to me only fair even at this late day, to evince a spirit of good fellowship by way of reciprocity. It is therefore gratifying to state that acting upon this principle we have been able to add about five hundred objects of interest to the Provincial Archaeological Museum in connection with the Canadian Institute.

Shortly after the issue of our last report a meeting of the Provincial Land Surveyors was held in the Institute. An invitation having been extended to the members of the Association to inspect our cases, Mr. James Dickson, P.L.S., of Fenelon Falls, expressed

his pleasure to find that a collection was being made, at the same time informing Mr. Jas. Bain and myself that he had a number of good specimens which he had been saving for years to present to just such an institution as ours, and that he would gladly forward them as soon as he returned home. Mr. Dickson was true to his promise, and it was not long until he expressed to us sixteen axes (one of them measuring fully a foot in length and the others upwards of ten inches), a mortar stone used for grinding purposes, an immense flint weapon or tool, gracefully formed and measuring ten and a half inches long, two very good stone pipes, several clay pipes and fourteen fragments of pottery, with the usual markings.

Other members of the Association expressed their intention to aid the collection as soon as opportunity offered, and when the nature of surveyors' duties is taken into account, it is evident that gentlemen of their profession might do much in furtherance of our archaeological project.

About the same time also we received through Mr. John Notman, from a gentleman whose name was not ascertained, three portions of beavers' jaws with teeth, from a grave in Onentisati, Simcoe Co., two bone awls, one trumpet-mouthed pipe-head, and one of cylindrical form, all from the same locality, also two fragments of pottery from Ste. Marie, Simcoe Co.

Early in May, we received a small but valuable collection from the Pike Farm, Wolfe Island, through Dr. Dickson, of Kingston. During many years Wolfe Island has been a favourite hunting-ground for American collectors, and some of the best specimens in their museums are from this place. In several respects there is a marked difference between the materials and forms of implements found in the eastern portion of the Province as compared with those in the west, and the fine specimens procured through Dr. Dickson, added to those we got from Tidd's Island last year, are fairly representative of that section.

The Pike Farm collection consists of native copper beads, four heavy copper pendants, two small, pointed, copper instruments, two large stone axes (one of which is eleven and three-fourth inches long), one small axe, one small gouge, a slate implement (probably used for skinning purposes), sixteen unusually large flints, sixty-one arrow-heads, two small drills, two excellent stone tubes, three fragments of pottery, four slate tablets, perforated, and one rudely finished bead (?) of black material, flat and approximately circular.

Dr. Orr, of Maple, presented us with three good specimens from the township of Vaughan, viz. : a stone, partly formed in preparation for a pipe-head, a small mortar, of size and shape convenient for being used in the lap, and a small "banner-stone."

What is perhaps the most gracefully formed, and at the same time certainly the most capacious pipe in our collection, was presented to us last spring by Mr. Moon, of Madoc. It was found by a farmer near L. Moira or Hog Lake, within a short distance of the village of Madoc, about two years previously, the find being duly chronicled in the local paper.

From the Rev. Mr. Laboureau, of Penetanguishene, we have received a finger-ring made of brass, on the "seal" of which are engraved the letters I. H. S., in monogram form. It is probably the work of some old French *attaché* to one of those Huron missions, for which that portion of the country where the reverend gentleman is stationed, was so celebrated in the early history of Canada. The ring is contained in a small and neatly made case of recent Indian workmanship.

Only a few weeks ago we came into possession of one of the largest and best private collections in the Province, consisting of upwards of fourteen hundred pieces. Those were brought together by Mr. Wm. Matheson, of Lucan, in the county of Middlesex.

Apart from the extent of this collection, and the important fact that a record has been kept of all the principal articles, it is especially interesting as being so exhaustively illustrative of a limited area, nearly everything in it having been found within the townships of East and West Williams, Biddulph, Blanchard, and McGillivray. It is noticeable that pipes and bead-forms are scarce in this collection, as compared with those found further south and east, but this want is fully compensated by the unusually large number of perforated tablets, bird-forms and other even rarer shapes, of which there are many.

Chief among the objects procured from Mr. Matheson, may be enumerated fifty slate tablets or gorgets, perforated with one or more holes and varying to a great extent in form, seven banner stones, or as they are called in a recent publication emanating from the Smithsonian Institute, "butter-fly stones," thirteen bird-formed amulets (!), two spherical hammers of granite formation (these are encircled with a deep groove for attachment to a handle), two flat hammers (both notched for handle attachment), six stone pipes, six short tubes, five shell ornaments complete, two imperfect ornaments of the same material, two copper spear or lance heads (one having a tine or prong for insertion in a handle, the other being provided with a socket to receive the handle), one native copper axe, showing unmistakeable traces of native silver, eleven grooved axes, one hundred and eighty plain axes, eleven iron tomahawks, some of them of a different pattern from anything already in our possession, six gouges, and a north-west "shaganappi" covered club. There are also several hundred flints, many of them of considerable size and well formed—others so rudely chipped as to prove admirable examples of the work done in what some writers would fain regard as the paleolithic period on this continent.

The large number of flints and axes in this collection will enable us to do, when opportunity offers, what we have hitherto been unable to perform satisfactorily, viz. : effect exchanges with individuals and institutions in our own and other countries.

From W. Ransom, Esq., England, we have received, through Mr. J. H. Pearce, President of the Biological Section of the Institute, a number of very good palcolithic flints, illustrative of early European "society." Most of these are from Hitchin and neighbourhood, in the county of Sussex, but some are from Persigny, France, and an exceedingly valuable specimen of celt in horn socket, is from one of the ancient lake dwellings in Switzerland.

Mr. Ransom's gift includes also some fragments of Samian ware and two specimens of the Roman stylus (all dug up in the city of London from a depth of ten feet below the surface) three beautiful arrow-tips, from Antrim county, and one from Derry county, in Ireland.

As Mr. Ransom's donation includes nearly all we possess illustrative of the stone age in Europe, we are indebted to him for the opportunity he has afforded us to compare equivalents of the two continents.

A genuine old English "Grey-beard" pitcher from the same gentleman is, perhaps, the only one in any Canadian collection, and will not be devoid of interest to those who fondly regard all that relates to the mother-land.

Owing to an oversight, our last report contained no reference to the gift of Sheriff McKellar, of Hamilton. This consisted of a *brach*, or old-fashioned handmill made by Mr. McKellar's father and used by the first settlers in the Talbot settlement. This *brach* was mounted in a portion of a hollow log, as originally used, and was sent to the Intercolonial Exhibition, London, after its return from which it was deposited with the Institute.

Another pair of *brach* stones was presented to the museum by the sheriff's brother, Mr. Peter McKellar, of Chatham. These two sets are probably the only ones of the kind ever made in Ontario, and it is gratifying to know that they have been preserved "to point a moral and adorn a tale" for coming generations.

Brachs or querns occupy a prominent place in the Archaeological Museums of Britain and other European countries. It is not long since they were used in the Orkney and Shetland Islands, and it is said they were employed still more recently in Cape Breton.

Taken altogether, the year has not been barren of results, at least in so far as increase to the museum is concerned. Upwards of two thousand specimens have been added to our cases, and the collection is beginning to assume a character such as to warrant the belief that in a few years the Province of Ontario will possess an Archaeological Museum, which, if not what it might have been with an earlier start, will, at all events, go a long way towards placing us upon an equal footing in this respect with other progressive nationalities.

It is needless to repeat here that, but for the small grant made by the Provincial Legislature to assist in this work, we could have done absolutely nothing. The material already in our cabinets is worth many times more than it has cost, and at the present rate of increase in quantity will, in two or three years, require every inch of space in the museum.

Just in proportion as it grows in number, variety and instructiveness, will it become popular, and consequent upon its popularity, we may look for a corresponding increase in the number of donations.

Two of the chief drawbacks to its growth and popularity in the meantime are its situation on a third-story floor, and the impossibility of having it thrown open to the public at reasonable hours. There are probably thousands of people in this city who are totally unaware that there is even a small collection of such objects; but few throughout the province know of its existence, and tourist visitors never hear it mentioned.

I am not aware that any real progress has been made since last report was presented to you towards the satisfactory solution of the problem relating to the purpose or uses of the many different sorts of objects that for convenience sake have hitherto been known as "banner-stones" and "ceremonial" weapons. There are not a few writers on this subject who express themselves glibly as to the application of almost every specimen that comes under their observation, but the truth is that regarding a large number of types we are totally ignorant of the purposes they served in aboriginal economy. Still we have reason to hope that some light will yet be thrown upon at least a few of the obscurities. In the journal of *American Folk-Lore* for October-December, 1888, there is a brief article by Mr. Franz Boas, on a "Collection of Ethnological Specimens from Alaska," made "by Lieutenant Emmons, during a five years' stay" in that country. These have been purchased by the American Museum of Natural History, in New York, and we are informed that "the collector has taken great pains to ascertain the meaning of the various implements," as well as to "record the traditions referring to them."

Our knowledge of what have been called ceremonial weapons, gorgets or tablets, and various animal forms has always been seriously at fault, but even the scanty extracts given in the article referred to, from the notes of Lieutenant Emmons, seem to be indicative of something like certainty. For example, the holes so almost invariably found in such objects have always proved mysterious to students, but writing of an ornamented and perforated stone Lieutenant Emmons says: "The holes in this amulet are used to put into them what is picked from the teeth, so that witches will not get hold of it to bring destruction to the person." Although this hint may not serve to explain everything relating to the presence of holes in such objects, it will at any rate give us a clue, and it agrees fully with a vague impression I have long entertained that they were in some way connected with luck.

It is unnecessary to go very far back in our history to meet with similar superstitious beliefs. It is not long since diseased persons, especially children, were passed through the dolmens of Cornwall and Brittany, with the hope that a cure might be effected, and this belief was, no doubt, connected with one concerning witch craft or the evil-eye. Keys, rings and beads have always been regarded as particularly ominous. Among many amulets of a similar kind in the National Museum of the Society of Antiquaries of Scotland, is one (No. 182, Section I) which is "a flat oblong stone, four inches long, by two and three-quarters wide, and less than a quarter of an inch in thickness, notched on the sides, and pierced with two holes one and a half inches apart, formerly used as a charm for the cure of diseases in Islay, Argyleshire," and No. 196 in the same section is a "perforated stone which was hung up in a cow-byre in Cumberland, to protect the cattle from being bewitched." It would be easy to multiply instances relating to the past, and not very difficult to adduce many connected with the living generation.

It appears not impossible that the American specimens hitherto (for the want of better names), known as banner-stones, gorgets, and ceremonial weapons, were nothing more than amulets, supposed to have power against this or that kind of evil spirit, in accordance with the form or device of the objects themselves. Perhaps, also, this class of speci-

men may be found to include those tubes which have always been a puzzle, and of which our collection contains several fine examples. In the "Personal Narratives" of Humboldt, we find that writer in speaking of articles made from jadestone, remarking that the Spanish planters share the predilection of the Indians for these amulets, which are sold at a very considerable price, the form most frequently given to them being that of the Persepolitan cylinders, longitudinally perforated, and loaded with inscriptions and figures.

When we bear in mind that the Tlinglit of Alaska are less removed from a condition of genuine savagery than are most of the other North American aborigines, it is not unreasonable to expect enlightenment on many points from the notes of an observer like Lieutenant Emmons, who, as Mr. Boas states, "has taken great pains to ascertain the meanings of the various implements."

Since the issue of our first report last year, letters from different parts of the Province have been received by the Education Department, the Institute, and myself approving of the task we have undertaken, and giving information relative to localities and discoveries connected with the pre-historical or early historical existence of the Indians. Want of opportunity has prevented any advantage from being taken of these, but in all probability some original work will be performed next year at a few of the places to which attention has been directed, as well as elsewhere.

I am still convinced that from the five thousand teachers of rural schools in this Province, there is much valuable information to be gleaned. The question is how to reach them. Shall it be by a circular, or by a card in the educational journals? Perhaps both methods should be tried. We need not expect too much at first, but if the subject is kept persistently before the eyes of all who are engaged in rural school work throughout Ontario, there can be little doubt as to the profitable results. Perhaps even one letter from such a correspondent would fully repay all the trouble and expense incident to the plan.

Our collection has now assumed such proportions that it will be necessary to rearrange it, and in some measure to alter the classification. I intend also to paint a number on each specimen, and to catalogue them all. In many museums a number is all that serves to identify the pieces, and constant reference to a catalogue is thus involved on the part of him who wants to get information. This, however, is not my idea of how either to popularize a collection, or to facilitate the work of the student.

Everything possible should be done to enable young and old, learned and unlearned, to examine with pleasure and profit, at the least possible expense of time and trouble. This object can be obtained only by means of copious and legibly written, or printed labels,

It is gratifying to be able to state that as the existence of our collection becomes known so many persons having specimens willingly contribute them to the Museum.

Before this report passes through the press it is hoped that all the specimens will have been rearranged. The area of case room has been fully doubled, and we may now regard our Archæological Cabinets as not unworthy of examination by specialists in this department.

I have, etc.,

DAVID BOYLE.

TORONTO, December, 1888.

NOTES.

We are too much disposed to overlook the fact that there are degrees of advancement in savage life, both with regard to comparative time and to peoples, even neighboring ones, that exist contemporaneously.

It is seldom that in the writings of those who profess to describe the "manners and customs" of the uncivilized we are permitted to get a glimpse of the true, inner social aspect of life. Much is related regarding the predaceous, warlike and religious practices of this or that savage nation—something perhaps about its marriage and burial usages, its costumes, its domiciles and its most striking or peculiar characteristics of any other kind, but as a rule the greater part of such descriptions is superficial, and too often "things are not what they seem." Unseen, because far deeper, lie the originating instincts, the motives and the habits of thought that find only partial expression in what catches the eye or ear of the alien and casual onlooker.

By means of what we now call "folk-lore" something is being done in various parts of the world to put us in touch with the inner life of the simple past and its lingering representative in our own time. The scope of our knowledge has thus been extended in a direction once thought to be too narrow and barren for research, and the results have aided in the solution of not a few ethnological problems. On this continent efforts have been successfully made to collect myths and legends of the Indian race, and the work is still going on, although of course, owing to lapse of time, much has been irrecoverably lost.

The more we learn about the aborigines of this portion of America the more are we brought face to face with the fact that their savagery fell but little short of civilization. Perhaps barbarism would be the best term to employ when speaking about the condition of such people as the Iroquois, and in many respects the Hurons were little, if at all, inferior.

That they were revengeful and blood-thirsty is undeniable, but among the nations they were not alone in this respect. Their manifestation of these qualities was simply less refined than that of others who probably regarded themselves as civilized beings. In social and political virtue they were unsurpassed, and in point of mechanical ability their capabilities and attainments were marvellous. It is extremely doubtful whether any other people in the world, similarly circumstanced, could be compared with them in the latter respect. The variety, tastefulness and workmanship of their relics are amazing.

"Patience and perseverance" are stamped upon most of their productions, for it appears probable that many specimens of their handicraft must have occupied them at intervals during years, or even a lifetime. To take a rough lump of granite or other equally hard material, and fashion it by persistent pecking and rubbing into a symmetrical plain or grooved axe, or to form a bit of huronite into animal semblance for some mysterious use, required a continuity of purpose and a skill in execution no less remarkable than if one of ourselves should undertake to produce a bust with the aid of no tool but a pocket-knife, or a piece of machinery with only a hammer, a saw and a file.

In the art of making coarse pottery they excelled, and the further south we go until we reach Peru, the more do design and workmanship improve. Nothing that was very elaborate seems to have been attempted in this line by the aborigines who inhabited our part of the continent. Here they seem to have contented themselves with plain, serviceable vessels, yet not wholly devoid of ornamentation. This consisted mainly of lines and dots impressed upon the clay when soft, with an occasional variation in the outline of the vessel, such as narrowing to form the neck, flaring of the lip, and the addition of projections of various kind round the mouth. Although immense numbers of earthenware fragments are found scattered all over this Province, entire vessels are very seldom discovered. Farther south this does not hold good to the same extent, but whether this is owing to a difference in the quality of the materials employed in the manufacture, or to the climate and the character of the soil it is not easy to say.

Whilst no doubt among the Indians, much more than with ourselves, there were individuals who preferred articles of their own manufacture, it seems abundantly evident.

that trades were specialized by them to a considerable extent. The expert in pipes, arrows, etc., would confine himself mainly to such occupations. As corroborative of the remark made in our last report that "to the women, in all likelihood, was allotted the making of earthen vessels," I was informed by Dr. Collins, of Lawrenceburg, Indiana, that there died recently an old woman belonging to a western tribe of Indians, who was said to be the last living representative of her people possessing the art of making pottery of the genuine, old-fashioned description. A friend of Dr. Collins, who was well acquainted with the old woman, persuaded her to make for him six specimens of her art. These he distributed among his friends, one falling to the share of Dr. Collins. I had the pleasure of examining this piece, and but for its comparatively new appearance it seemed to correspond very closely in material, form and ornamentation, with those that are occasionally taken from ossuaries in Canada and the United States.

The ancient people of the lower Mississippi valley were adepts in the production of pottery. The Louisiana historian, Du Pratz, refers to this fact, remarking that he found the Natchez Indians so expert that he got them to make a set of vessels for his own use. "The women," he says, "make pots of an extraordinary size, jars with a medium-sized opening, bowls, two-pint bottles with long necks, pots or jugs for containing hair oil, which hold as much as forty pints, and finally plates and dishes in the French fashion."

Father Marquette, in the account he gives of his voyage down the Mississippi in 1673, says: "They [the Indians of Arkansas] used in cooking, large pots of earth very curiously made, and large plates of the same material, which they employed for a variety of purposes."

Mr. George P. Thurston, in the *American Magazine of History* for May, writes: "Utensils and objects of well-burned clay are found in Tennessee, Missouri, Arkansas and elsewhere, of varied, original and even artistic form, interesting mementoes of ancient life, but they indicate no knowledge of the potter's wheel. They are without glaze, and are but comparatively rude conceptions, fashioned by hand."

The absence of glaze here referred to was, in some measure, overcome by the Natchez, whose "red-stained pottery" is spoken of by Du Pratz, a specimen of which we now have in our collection. A black stain was also used, and vessels are occasionally found whose exteriors are ornamented with patterns consisting of both colors. There is little doubt that this staining vastly improved the serviceable qualities of the pots, besides adding greatly to their appearance, for the material so applied has filled up the pores so thoroughly that the vessels thus treated take a fair polish when rubbed, and are at all times comparatively smooth to the touch.

The following nine figures, now in our collection, represent average specimens of earthenware from mounds in Cross County, Arkansas. They formed part of Mr. C. W. Riggs' exhibit at the Cincinnati Exposition:

POTTERY.



FIG. 1.

Fig. 1 is of the greatest capacity in the lot, its widest diameter being about eight inches. Considering the size its sides are thin. Although the outline is not devoid